ZEPIA Energy

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ZE DC/DC Booster

General description

This ZE DC/DC booster is designed for use with all types of rechargeable lead acid batteries. The Booster raise the input voltage from the alternator to an output level with appropriate voltage level to charge the connected battery.
The product is suitable both in marine and automotive applications.

Features

- High efficiency, Cool running normal operation
- Overheat protection
- Waterproof and shock resistant, IP67
- Compact metal enclosure
- Small and easy to install

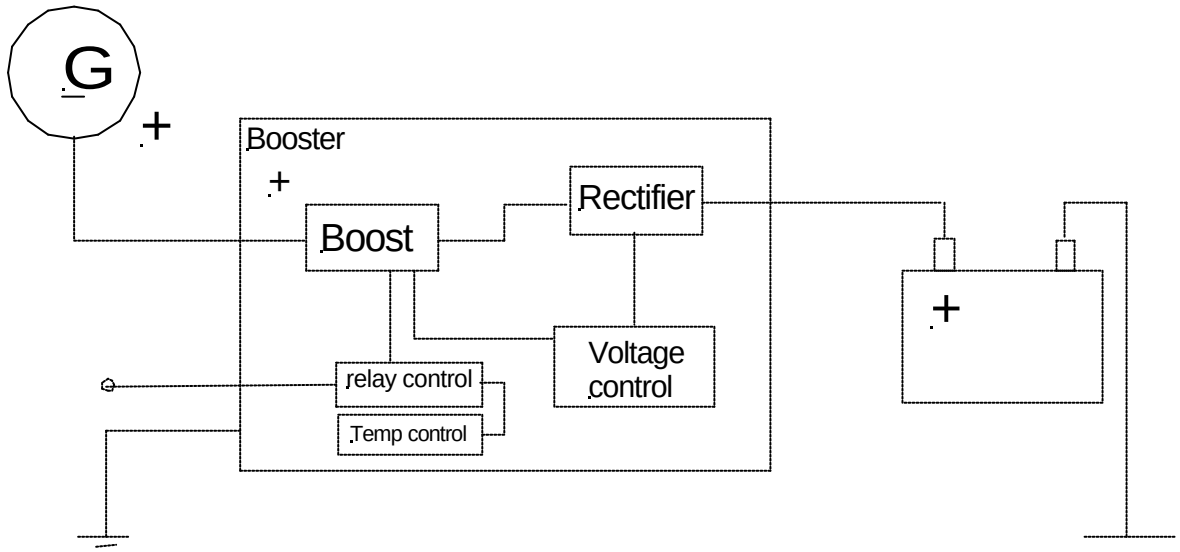
Part number / order information

ZE part number	Max current	Nom voltage
0037120	12A	12V
0037131	8A	24V
0037130	8A	24V

Theory of operation

The input voltage is converted to the suitable charging voltage. This conversion is made by a step up construction and works with high efficiency. The output voltage is kept stable within the input voltage specification. The charging characteristics is IU. Depending on the input voltage condition, the charging current can reach up to 20 amp. This enable a quick recharge.
The booster is turned on and off by an internal relay. The relay is controlled by the thin red lead.
Art nr 0037310 has a voltage controlled on/off switch. This will turn on the booster at 25,8V input voltage and turn off at 25V.

Block Diagram



Descriptions of features

The normal operation is very effective and cool running. The cooling is convection only. If mounted in poor ventilated or airtight compartments the surface heat may raise significant. The unit has a build in overheat protection. This will turn the unit off if the surface temperature reach approx 60 degrees.

The complete electronics is mounted in the metal enclosure and totally sealed in polyurethane. Water, oil or other substances will thereby be effectively kept out. The booster can be mounted in very harsh environment such as engine-compartment due to the encapsulation.

Electrical specifications

ABSOLUTE MAXIMUM RATINGS

Maximum ratings establish the maximum electrical rating to which the unit may be subjected without damage

Parameter	Value	Notes:
Max Current		
Model 0037120	20	
Model 0037131	20	
Fuses, mounted on cable	20Amp / 0037120	30Amp / 0037130/31
Stand off voltage	18V / 40V	Note 1
Enclosure Temperature	60°C	
Operating Temperature Range	-30°C - +85°C	
Storage Temperature Range	-55°C- 85°C	

1. This is maximum voltage applied between INPUT and GND that the unit will standoff without causing damage to the unit. 0037120 / 0037131

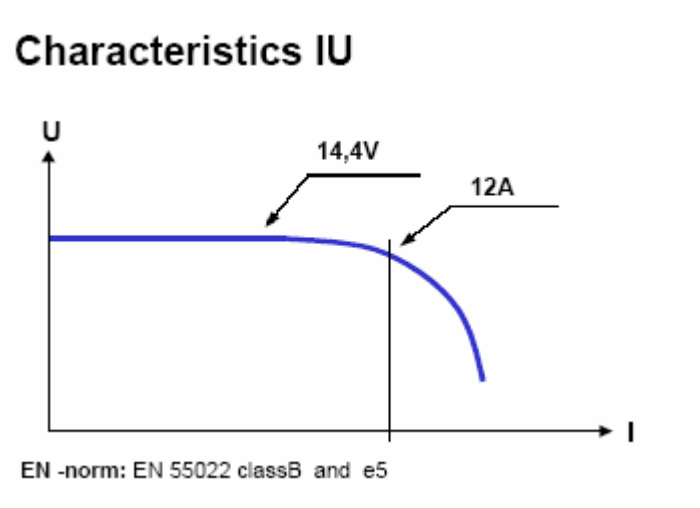
Electrical Characteristics

Unless otherwise stated, conditions apply to full temperature range and full input voltage range.

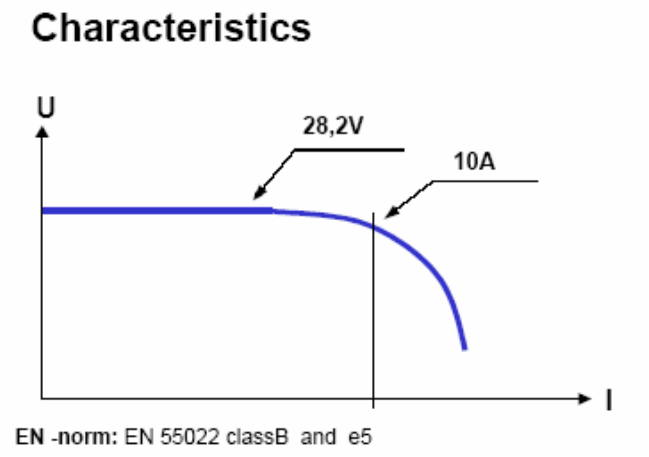
Characteristic	**MIN**	**TYP**	**MAX**	**Unit**	**Notes:**
Input Voltage Turn ON	7	9	9,5	V	0037120
Input Voltage Turn OFF		9		V	0037120
Input Voltage Turn ON	20,0	21,0	22,0	V	0037131
Input Voltage Turn OFF		20,0		V	0037131
Input Voltage Turn ON	25,6	25,8	26,0	V	0037130
Input Voltage Turn OFF	24,8	25,0	25,2	V	0037130
Input Over Voltage			15	V	0037120
			29	V	0037131/30

Output Voltage	14,2	14,4	14,6	V	0037120
Output Voltage	28	28,2	28,4	V	0037130/31

Quiescent Current off		< 1	mA
Quiescent Current on	0037120	220	mA
	0037131	170	mA
	0037130	190	mA



0037120



0037130/31

Environmental Specifications

Parameter	Level	Conditions / Notes
Humidity	0 – 100 %RH	
Splash	Yes, IP67	
Pressure Wash	Yes, IP67	
Mechanical Vibration	40G	according to standard IEC 60068-2-6
Handling Shock	Will Show Damage	

Mechanical specifications

Terminals:
The unit utilizes three 1,5mm2 cupper cables to make the power connections. Each cable is fitted with cable shoe 1,5 x 8.
The control connection on/off are 0,75mm2 RK cupper cable with cable shoe 1,5 x 8
Overall cable lengths is 1500mm.

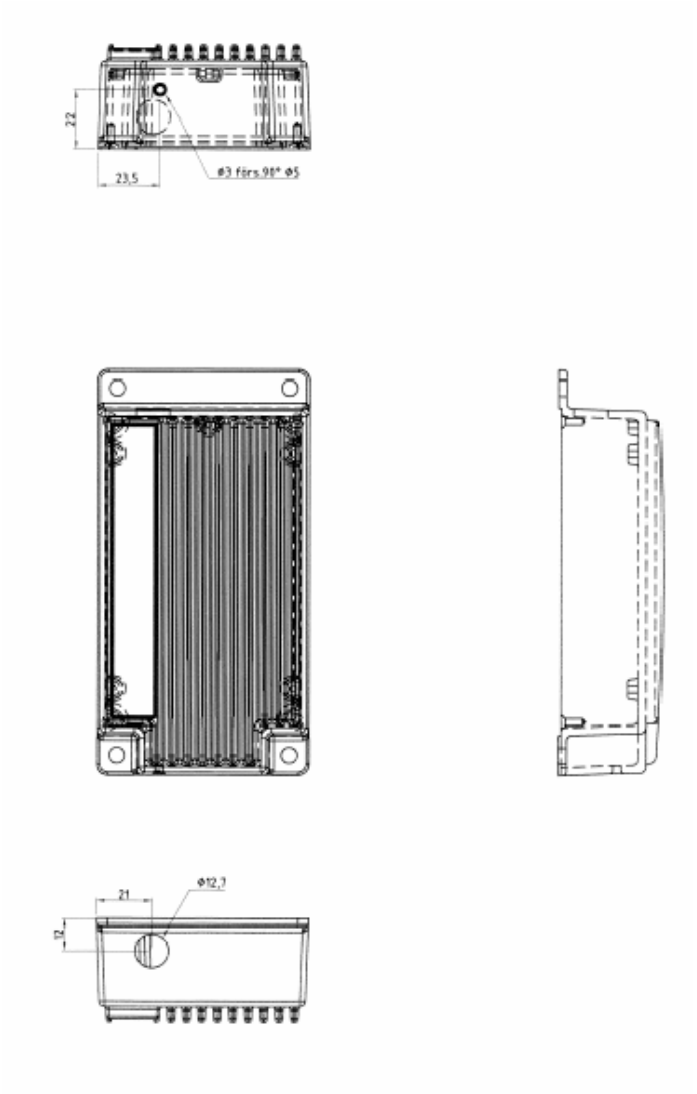
Finish: Grey RAL 7035 powder coated aluminium enclosure

Potting material: Polyurethane

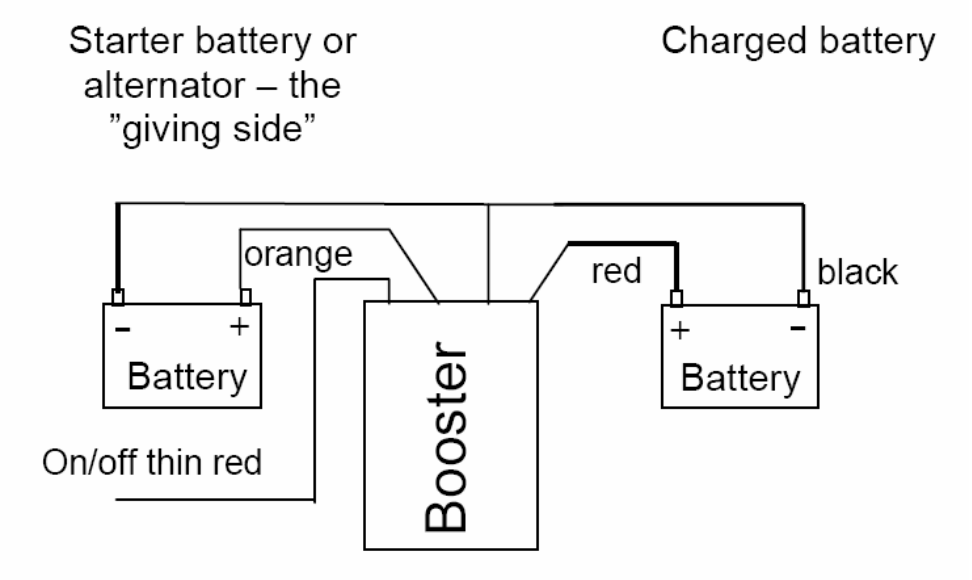
Mounting Slots: 4X, Accepts M4-M6 (6mm diam)

Weight: 1,0Kg

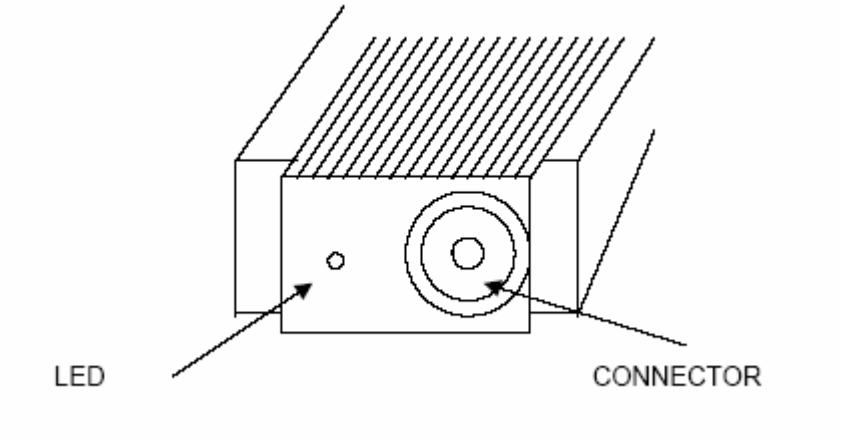
Unit Dimensions: 150 x 80 x 43



Connection and installation:



Install the Booster if possible vertical with the cable connectors down. The booster shall preferable be mounted close to the charged battery to obtain maximum charging effect.



Approvments : EN 55022 CE and **e** mark e5 0086